EDGEWORTHIA (THYMELAEACEAE) NEW TO THE WESTERN HEMISPHERE

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Edgeworthia chrysantha Lindl., a shrub previously known to be native only from eastern Asia, has been found growing wild in Rabun County in northeastern Georgia in the Blue Ridge Mountains. Plants were first observed 15 September 1971 by the junior author. They are now known to occur at intervals along 2.2 miles of Wolf Creek in deciduous woods at elevations of about 1200-1600 feet. The woods have had selective cutting but have never been cleared.

Many colonies of the *Edgeworthia* occur along Wolf Creek. One consists of at least 500 plants and extends along the banks of the stream for about 1/4 mile. The largest plant is 3.5 m tall and the stem 4 cm in diameter 15 cm above the ground. Plants vary in size, those on the stream bank being the most robust with smaller plants extending 6 m from the stream bank. Plants 75 cm or more tall usually bear inflorescences.

Open flowers were found on some plants on 26 February 1972. These flowers and vegetative material collected before frost enabled us to identify the plants positively to species. Specimens with full sized but immature fruits were collected 21 May 1972. All characteristics of the plants compare well with those of 23 specimens which we have seen from Japan. *Edgeworthia chrysantha* was introduced into Japan for cultivation as a source of paper and is now widely escaped there (Ohwi, 1965).

Is *Edgeworthia* native to the Southeastern States? We have found no reports to substantiate or repudiate such a theory. It is especially significant that neither Small (1933) nor Nevling (1962) reports the genus for this area. Apparently it has been reported as native only from China to Himalaya (Hooker, 1885; Nakai, 1924; Hamaya, 1955; Makino, 1957; Hutchinson, 1967). Fairchild (1903) reports the introduction of the species into the United States from Japan and later (1908) says that planting trials at Washington, D.C., and elsewhere indicate it will prove

hardy as far north as the Carolinas and will seed freely. Bailey and Bailey (1941) state that *E. chrysantha* "— is introduced in N. Amer." The Rabun County plants may be from one of these introductions, however, we have no data to indicate the species was introduced there or that it has escaped cultivation from elsewhere. Yet, it is incredible to think that the plants are an eastern Asiatic disjunct.

A few vascular plant species occur in both the Southeastern United States and China and/or Japan, e.g. *Mitchella repens* L. All are more widespread in both hemispheres than is the *Edgeworthia* in Rabun County. In addition, there are many genera in the Southeastern United States that have different species occurring in Asia, but no pair in any genus has the strong similarities as do our *Edgeworthia* plants and the 23 specimens we have seen from Japan. We are continuing our search for information which might indicate the Rabun County plants are introduced or escaped. If such data are lacking, then, because of the circumstances under which the plants are growing, we think the colony could be native. We solicit any information that might be of help.

Obviously descriptions of *E. chrysantha* are not readily available to most persons in the United States. Therefore, a short description is presented below along with a partial synonomy.

Edgeworthia chrysantha Lindl.

(*E. papyrifera* (Sieb.) Sieb. et Zucc., *E. tomentosa* (Thunb.) Nakai, *E. gardneri* of authors, not Meissner)

Deciduous shrub to 3.5 m tall, usually ternately branched. Twigs yellow-brown, appressed-pubescent when young. Leaf scars raised about 45° at the lower end, with one crescent-shaped bundle scar. Leaves petioled, the blades lanceolate to sometimes oblong; acute to shortly acuminate or rarely obtuse at the apex; cuneate to acuminate at the base; 8-25 cm long; thinly silky, especially below; the hairs .25-.75 mm long, appressed, and pointing toward the tip. Inflorescences are in axillary peduncled heads which develop before the leaves fall and are conspicuous during the winter.

Flowers fragrant, 20-50 in each head. Heads subtended by several densely silky ovate to oblong bracts which usually fall before the flowers open. The heads droop early, at least by the time that all flowers have opened. Flowers silky hairy on outside, apetalous, 10-18 mm long, the calyx lobes 2-3 mm long and yellow inside. Stamens 8 in two series of 4 on inside of floral tube, filaments very short. Ovulary nearly sessile, hairy, 1-locular. Styles 3-4 mm long. Stigma clavate. The entire pistil 7-9 mm long. The flowers open as early as late February. The fruits mature in summer. They are hairy at the apex, 6-7 mm long, ellipsoid to ovate, dry, green, and often surrounded by the somewhat persistent floral tube. Voucher specimens are in the University of Georgia Herbarium: *Mellinger*, 15 September 1971; *Duncan* 23751, 21 May 1972 (fruiting); in deciduous woods along Wolf Creek, Rabun Co., Georgia, Blue Ridge Province.

Edgeworthia as presently interpreted apparently consists of four species. They have been separated mostly on the basis of vestures or the lack of any, flower colors, and peduncle lengths. *E. longipes* Lace, which occurs in upper Burma, has peduncles 9-11 cm long. In other species they are only 1-2.5 cm long. *E. albiflora* Nakai, which occurs in Yunan and Szechwan Province, China, may be recognized by the whitish interior of the calyx and glabrous undersides of the leaves. In the remaining two species, *E. gardneri* Meisner and *E. chrysantha*, the leaves are hairy beneath (sometimes faintly so) and the flowers are yellow inside. The flowers appear with the leaves in the former and before the leaves in the latter. A much more reliable character apparently has not been used previously; the involucral bracts are ovate to oblong in *E. chrysantha* and linear (up to 35 mm long) in *E. gardneri*. There seems to be a short-bracted and a long-bracted form of *E. gardneri*. These forms may deserve taxonomic recognition and should be studied. The long-bracted form occurs from Nepal into northern Burma, and the short-bracted form from eastern Nepal into southwestern China. *Edgeworthia chrysantha* occurs in the southern half of China and as an adventive in

Japan. It is considered by Nakai (1929) as two species which are separated by stoutness of twigs and size of leaf scars. We, however, agree with Hamaya (1955) that there is a gradual transition in sizes and there is no basis for division into two species.

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